

PLANE TALK

UPCOMING EVENTS

- **August 11, 2004**—AOPA Air Safety Foundation GPS Beyond Direct—UNO Alumni Center, Omaha, NE
- **August 21 & 22, 2004**—Offutt AFB Air Show,

FAA, Flight Standards District Office, 3431 Aviation Road, Suite 120, Lincoln, NE 68524, 402 475-1738, FAX 402 474-7013
<http://www.faa.gov/fsdo/lincoln>

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CHANGE OF ADDRESS

If you change your address or do not want to continue to receive PLANE TALK, please let us know so we can change our address listing.

FAA AVIATION NEWS

For more FAA information, you can subscribe to the **FAA AVIATION NEWS** magazine by calling the Government Printing Office (GPO) at (202) 512-1800. GPO's code for the magazine is FAN. You can also call the FSDO, (402) 475-1738, and ask for a copy of the magazine and use the subscription form included in the magazine. We only get a few extra copies of the magazine for each edition, but we will put your name on a waiting list and send you one when we get it. Cost of the magazine is \$21.00 per year.

SECURITY

As we reported in our last newsletter, because of increased security at FAA offices, we must keep our office locked; therefore, no one will be allowed in the office without an appointment. **Also, when entering our facility, you may not have any items in your possession that are not fully exposed and easily viewed. Briefcases, purses and backpacks are not allowed. REMEMBER: PLEASE CALL FOR AN APPOINTMENT BEFORE YOU MAKE A TRIP TO OUR OFFICE.**



WINGS PROGRAM PARTICIPANTS



Congratulations to the following pilots for having successfully participated in the Pilot Proficiency Award (WINGS) Program:

PHASE 1: William B. Cassel, Charles W. Harmon, Jim Hassenstab, John P. Kohl, Gregg Lund, John R. Marrinan, Brent D. Meyer, Daniel L. Petersen, Mitchell Saure, Daniel L. Vogt

PHASE II: Paul W. Charbonneau, Clint Menke, Kent Taylor

PHASE III: Timothy S. Holmberg, Steve D. Lukehart, Kathy McCoy, Kenneth Rudie, Bill Squire, Russell S. Timmerman

PHASE IV: Terry Maurel, David S. Melvin, Patrick O'Brien, Randall W. Reznor, John Sidle

PHASE V: Phillip R. Cook, John F. Cox, John K. Shannahan, Thomas White

PHASE VI: Thomas J. Donaghy, Jr., Paul M. Grieger, Robert H. Moser, Herman Person, John Tabor

PHASE VII: Ken Frank

PHASE VIII: Vergil Heyer, Thomas F. Pflug

PHASE IX: Robert W. Streba

PHASE XI: Stephanie B. Branch

PHASE XII: Franz J. Muller

PHASE XIII: Raymond E. Anderson

PHASE XIV: Ken Kennedy



KEEP IT STRAIGHT AND CENTER

Summertime not only brings warm temperatures but also the wind. Every time I go out to fly to a flight breakfast or fly-in, it seems that the winds are howling. When the wind is not straight down the runway, we have what is known as a crosswind. Crosswinds bear special attention for takeoffs and landings. One of the biggest causes of accidents or incidents is loss of control of the aircraft on the runway. So how can we prepare ourselves for the crosswind takeoff or landing?

First, we should know our aircraft. Unlike transport category aircraft, our light airplanes that we typically fly do not have a crosswind limitation published. They have a maximum demonstrated crosswind. This is usually the maximum crosswind that the test pilot flew in during the aircraft's certification. This doesn't mean that we should nonchalantly throw this number into the waste bin. If a pilot is not very proficient with crosswinds, they should not exceed the maximum demonstrated crosswind listed in the Pilot's Operating Handbook or Flight Manual.

Next, determine the strength and direction of the wind. Listen to the Automatic Terminal Information Service (ATIS), Automatic Surface Observing System (ASOS), Automatic Weather Observing System (AWOS), or ask the tower controller or UNICOM operator for the winds. Take this information and decide which is the most suitable runway to use. Then figure the headwind and crosswind component. You can do this very quickly on the back side of your E6-B computer by placing the runway number at the top and then taking the wind direction and speed and directly plotting it. Go straight down from your wind dot to find the crosswind component and straight across for the headwind or tailwind component. Your Flight Manual or Pilot's Operating Handbook should also contain a crosswind chart.

From this information, pick the most suitable runway to use. Remember that the takeoff and landing distance charts do not account for crosswinds. There is more drag on the aircraft in crosswind opera-

tions, thus the aircraft will not accelerate as fast and will need more distance for takeoff. If there is sufficient runway, pick the one with the least amount of crosswind and the most headwind component. Do not discount the use of grass strips. Some insurance companies will not allow the use of grass strips, but I have seen a pilot take off of a hard surfaced runway with a vicious crosswind when the wind was straight down the grass runway because of this insurance requirement. The insurance company then had a wreck to pay for and to pick up. If you can't for some reason use a grass runway and the wind is too strong on the pavement, it is time to delay your departure for more suitable winds. I also know a pilot that was flying a Cessna 195 into Albuquerque, NM, and requested a runway that more nearly aligned with the wind. The tower refused this request and told him to use Runway 8. He ground-looped his beautiful tail-dragger and closed down the main airline runway. That didn't do anybody any favors. Remember who the Pilot in Command is. Be sure to tell the tower that you need another runway for "operational necessity."

Once in the aircraft, be wind conscious. Use the correct control inputs during your taxi. Dive away from a tailwind and climb into a headwind. Then when you are on the runway be sure to line up on the centerline and put in full aileron into the wind. I have read articles espousing the technique of lining the aircraft up on the downwind edge of the runway and then flying across the runway towards the upwind side. If you need to do this because the wind is that strong, it means it is too strong. Wait until you have more favorable winds or use a more suitable runway. The centerline is your friend, stay on it!

Now that you are on the runway with full aileron into the wind, apply takeoff power. Once you accelerate, you will take out some of your aileron input to prevent the downwind wing from lifting too much. During all of this, you will use the rudder to maintain directional control on the centerline. Accelerate to a higher speed than normal before liftoff. Be sure your liftoff is

*The centerline is
your friend, stay
on it!*

KEEP IT STRAIGHT AND CENTER (Continued)

a positive one. You do not want to settle back to the runway because the aircraft could have already started to drift. Once airborne, make a coordinated turn into the wind to set up a crab to fly the extended centerline.

Landings are just the reverse. There are essentially three different approaches to crosswind landings: the wing-down method, the crab method, and the combination method. Each method has its pros and cons. The wing-down method is easier to execute but is uncomfortable for passengers. The crab method is comfortable for passengers but is difficult to time right when you de-crab the aircraft right before touchdown. The combination method is also comfortable for passengers but is more difficult to time than the wing-down method.

To set up for the wing-down method, you will fly the extended centerline on final using aileron to counteract any drift and using rudder to align the nose of the aircraft with the runway. If this sounds like a sideslip, it is. You will fly this sideslip all the way on final to touch down. Once in the flare, you should touch down on the upwind wheel first, then the downwind wheel, then the nosewheel or tailwheel if performing a wheel landing. During rollout, you will have to feed in more aileron into the wind as the aircraft slows and the controls lose their effectiveness. Remember to keep using the rudder to stay on centerline and the nose aligned with the runway.

For the crab method, you fly down the extended centerline of the runway and crab into the wind. Right before the aircraft touches down in the flare, you will de-crab the aircraft to align the nose with the runway. Larger aircraft such as the Boeing 707 with wing mounted engines or the Boeing 727 with large flaps require this method of landing in order not to scrape an engine or flap. It is more difficult to time in our typically lightly wing-loaded aircraft. As you apply rudder to de-crab, you will need to apply some opposite aileron, cross-controlled, because the upwind wing will want to lift. You want to land on both

main wheels at the same time with the nose aligned with the centerline. Again as you roll out and the aircraft slows, you will need to add more aileron into the wind to keep the upwind wing from rising.

My favorite method is the combination of crab and wing-down method. In this method you will fly down the final approach just as you would in the crab method but transition to the wing-down method in the flare. It takes coordination and practice but utilizes the best traits of both previously mentioned methods.

I know some of you are thinking that you can't slip a Cessna for landing. A 1981 Cessna 172P information manual sheds a little light on the subject. It states in one section, "Avoid slips with flaps extended." And then in the section covering **CROSS-WIND LANDING**, it states, "When landing in a strong crosswind, use the minimum flap setting required for the field length. If flap settings greater than 20 degrees are used in sideslips with full rudder deflection, some elevator oscillation may be felt at normal approach speeds.....Although the crab or combination method of drift correction may be used, the wing-low method gives the best control." So, basically, you can use the wing-down method if the slip is not steep and you use the minimum amount of flap, generally 10 to 15 degrees. Side-slips to correct for drift are not nearly as steep as those for forward slips that are required for altitude loss. Just make sure that whatever aircraft that you fly that you follow the manufacturer's Flight Manual or Operating Handbook recommended procedures.

That is just a quick and dirty review of crosswind operations. Make sure you get some good practice with a Certified Flight Instructor. Remember, use aileron to control the drift and rudder to keep the nose straight. You can never make a good landing crooked, especially in a tailwheel aircraft. Never exceed your or the aircraft's limitations and make every landing straight and center. Dan Petersen, ASI

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VFR FLIGHT PLANS

*VFR Flight Plans
are the pilot's
most effective tool
in facilitating
Search and
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him in case of an
off airport landing
or an accident.*

I know a lot of pilots who will not file VFR flight plans because they think that they will forget to close them upon landing. VFR flight plans are the pilot's most effective tool in facilitating Search and Rescue's (SAR) ability to locate him if he has an off airport landing or accident.

According to the National Search and Rescue Plan, "The life expectancy of an injured survivor decreases as much as 80 percent during the first 24 hours, while the chances of survival of uninjured survivors rapidly diminishes after the first 3 days." An Air Force Review of 325 SAR missions conducted during a 23-month period revealed that "Time works against people who experience a **distress** but are not on a flight plan, since 36 hours normally pass before family concern initiates an alert." This shows that it is imperative that SAR starts as soon as possible. The best way for this to happen is to file a VFR flight plan with a Flight Service Station (FSS).

FSS will keep your flight plan on file for one hour after your proposed departure unless you revise your departure time, activate your flight plan with your actual departure time, or in the case that you are unable to communicate with FSS, an assumed time if FSS has been informed to activate your plan at that specific time. So if you are running late, be sure to advise the FSS of a new proposed departure time. This will avoid the hassle of re-filing.

Try to file your flight plan as accurately as possible. Accurate estimated times of arrivals (ETA), route of flight, and true airspeed will help SAR efforts. If you do not close your VFR flight plan within 30 minutes after your ETA, SAR will be initiated.

This starts with the destination FSS making phone calls to the destination airport and the phone number that you supplied when you filed. When another 30 minutes have elapsed, the serious search begins.

You should file a VFR flight plan for each leg of your trip instead of one for the entire trip with stopovers. This is important because if you have an accident on one of your first legs of the trip, SAR will not be initiated until beyond 30 minutes of your ETA at your final destination. You can see that this would be a long delay, particularly if you are injured.

When I am en route, I will contact FSS with a VFR position report. Since I usually fly GPS direct and seldom am over a VOR, I will provide it in a fix/radial distance format. After I have made initial contact with FSS, an example is: "Columbus Radio, WACO 39743 McCook 1-8-7 radial, 2-0 nautical miles, VFR flight plan, Crete to Goodland." This will help SAR efforts in locating you because they will have an updated starting point. After I make the position report, I usually provide a pilot report and get updated weather. Be sure to let FSS know of any changes in your flight plan such as change of ETA of more than 30 minutes, change of destination, or route.

For those who are afraid that you will forget to close your flight plan, make it the last item on your checklist. It can be your best life insurance that you have, making the difference between surviving or not. You owe it to your loved ones and passengers. Take care of yourselves and your flight.

Dan Petersen, ASI

INTERNET SITES

A new site for Aviation Safety Meetings is www.faasafety.gov.

If you are looking for amateur-built aircraft reference materials, a good site to go to is <http://www.faa.gov/certification/aircraft/av-info/dst/amateur/default.htm>.

If you have any medical questions, there are frequently asked questions at <http://www.cami.jccbi.gov/aam-300/amcdfaq.html>.

THE DOWNWIND TURN

The subject of the downwind turn has created many arguments in “hangar flying” sessions around the country. There are those who dogmatically espouse that the downwind turn is a very hazardous maneuver. Then there are those who say that the airplane doesn’t know which way the wind is blowing. Who is right? Well, they both are, the first not for the reason that one may think.

Air is a fluid and wind is air in motion. An airplane has basically two motions in regards to air. Motion *through* the air produces lift, drag, stability, control, and what registers on our airspeed indicator. Motion *with* the air is like when a balloon floats with the wind. A balloon once in a steady state has zero airspeed. The wind pushes on the balloon while the gondola is on the ground and shortly after lift-off until the balloon is traveling the same speed as the wind. The free balloon is now moving with the air.

Wind has the same effect for an airplane as it does for a balloon. As an airplane flies through the air in a steady state wind, it is also flying with the wind. The only way the aircraft feels wind is ground track and ground speed. It is used purely for navigational purposes. The wind doesn’t push you to your destination any more than a train does. You are riding with the train. The airplane is drifting with the wind.

When an airplane flies through the air, it has airspeed, lift, and control. It has relative wind. This relative wind during a turn will remain constant in a steady-state wind. The aircraft never turns so fast that a loss of relative wind or airspeed will happen. It is not instant like in a wind shear.

If the airplane felt the wind, you would be able to put a view-limiting device (hood) on and make a 360-degree turn and tell me what direction the wind is coming from. I have been in holding patterns in the jet stream with wind over 100 miles per hour. The airplane had no clue as to whether it was flying into the wind or downwind. Only the ground speed readout could tell you.

So if the airplane cannot tell performance-wise as to whether it is flying downwind or upwind at high altitude, why should it be any different down low? Aerodynamically it is not different but it is illusionary.

This downwind turn is not dangerous because of a loss of lift but due to an illusionary difference. When at a low altitude flying into the wind, when a pilot turns downwind, the pilot senses an increase in speed. He mistakenly interprets this as an increase in airspeed and not groundspeed. Since he thinks that his airspeed has increased, he subconsciously increases his pitch causing the airspeed to decay. If airspeed decays too much, the pilot risks a possible stall.

When climbing into a strong headwind, your groundspeed is low, thus you have a high climb gradient (feet per nautical mile). If you turn downwind at the same indicated airspeed, your ground speed will increase, decreasing your climb gradient. Your climb rate will remain the same (performance) but your perceived performance over the ground will be diminished. Again, the pilot will subconsciously raise the nose of the aircraft with the result of a loss of airspeed and a possible stall.

Remember, this is all in a steady-state wind. As you climb or descend through different wind gradients, you could, depending on how fast the change is, have an increasing or decreasing performance. Wind shear is a sudden change of direction or speed of the wind. An aircraft is unable to react fast enough to such a phenomenon. In that case, you will have a change in airspeed and/or climb performance.

I know I will not convince the die-hards on this subject but the next time you are low and are turning downwind, be sure to watch your airspeed and not the ground speed. Wolfgang Langewiesche has a much more in-depth look at the downwind turn in his book *Stick and Rudder* as does Captain Barry Schiff in his book *The Proficient Pilot Volume 3*. In the meantime, have a safe flight. Dan Petersen, ASI



*Air is fluid and
wind is air in
motion.*

AIR SHOWS AND FLY-INS

The air show and fly-in breakfast season is fast approaching. If your airport is planning on having an air show with aerobatics, this will require much advance planning with the FSDO, and will involve airspace waivers, crowd control, etc. So, don't wait until the last minute, start your

planning now. If your airport is going to have a fly-in, now is the time to be thinking about crowd control, aircraft parking, car parking, medical facilities, etc. Advance planning is the name of the game.

APPLICATION TO CONDUCT OPERATIONS OVER A CONGESTED AREA - FAR 137.51



As the aerial application season gets in full swing, many Nebraska operators will be getting requests to spray villages and towns for insect control. As a reminder, FAR 91 prohibits restricted category aircraft from operating over a densely populated area. However, FAR 137 allows an aircraft to be operated over a congested area at altitudes required for the proper accomplishment of the agricultural aircraft

operation if the operation is conducted (1) with the maximum safety to persons and property on the surface consistent with the operation; and (2) in accordance with a plan originated by you, the operator, and approved by this office. Without a plan, flying over a congested area, including doing turn-arounds, is prohibited. Call the FSDO, 402 475-1738 for details.

AIRMEN SERVICES

Airman Certification, AFS-760, is establishing On-Line Services for airmen. To utilize these services, you will need to establish an account. More features and functionality will be added to this page in the future. Right

now the only service available is changing your address on line. The web site to access to set up your account is: <http://registry.faa.gov/amsvcs.asp>.

ATTENTION AIRCRAFT OWNERS

Is your registration at RISK of being canceled? If your address has been changed, you can go to the web at <http://registry.faa.gov> to update your address. At this same

site, you can reserve an N-Number. There are several other services for aircraft owners at this site.

FSDO NEWS

Ken Rieger, who has been the Manager of our office for the past four years, will transfer to the Des Moines FSDO as Manager effective July 11, 2004. Dan Underwood will be

the Acting Manager until a new Manager is selected.

We wish Ken the best in his new job.

*Hypoxia
The higher you fly...
The less air in the sky*

INCIDENTS

The pilot of a PA-28-200 stated he heard a loud bang and then lost power while in cruise flight. While looking for a place to land he saw an airport and was able to land with decreased power. Investigation revealed that the #2 cylinder had two broken studs on the top and two loose case through bolts on the top of this cylinder. It had also pushed the cylinder approximately 1/8 inch off the case half.

A Cessna 402B hit a fox during landing rollout. The damage was limited to the displacement of one propeller blade. There were no injuries.

A Piper PA-28-161 experienced a failure of the left hand main landing gear strut during landing rollout. The aircraft received minor damage and there were no

injuries. Investigation disclosed a failure of the left hand main landing gear drag brace attach fittings located on the strut housing.

On initial ground runs, the operator was doing blade tracks on a Scorpion 133 experimental helicopter. Operator had no intent to fly. After he brought the rotor RPM up to 100 percent, the helicopter became airborne and he found himself hovering. He then began to have problems with lateral control. He was going left to right with pilot induced oscillations. When approximately one foot off the ground with the oscillations becoming greater with each input of the flight controls, the left skid hit the ground and folded under the belly causing the aircraft to roll on it left side.

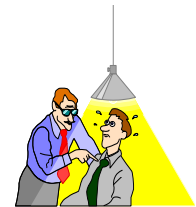


ENFORCEMENTS

The pilot of a Beech V35 landed without an ATC Clearance. The pilot will receive remedial training.

A private pilot conducted a round trip flight with three people from a corporation on

board. The pilot was cited for flying for compensation or hire without a commercial pilot certificate and for operating as an Air Carrier without a certificate or operations specifications. A 180 day suspension was recommended.



ACCIDENTS

A PA-18-150 sustained substantial damage immediately following takeoff from a pasture. The pilot was attempting to reposition the aircraft due to approaching severe weather. There were no injuries.

On the last pass to finish the spray load, the pilot allowed the right wing boom of an AT-602 to become entangled with the wheat crop causing the aircraft to impact the ground. The aircraft pitched over causing the prop to impact the terrain. The aircraft was substantially damaged and there were no injuries.

While landing for fuel during a repositioning flight, a Grumman G-164B veered to the left of the runway. The aircraft experienced a severe side load to the left and became uncontrollable causing the aircraft to ground loop to the right side of the runway approximately 900 feet from the threshold. Upon entering the grass on the

side of the runway, the left main landing gear collapsed causing the left lower wing and the nose of the aircraft to come in contact with the ground. The aircraft received substantial damage and there were no injuries.

Approximately 3000 feet MSL, a Cessna 175 lost power. The pilot applied carburetor heat, tried left and right magnetos, checked fuel selector for both and tried the primer, all with no effect. The pilot selected an emergency landing area on a golf course and attempted to land. During the landing, the nose strut collapsed and the left wing tip came in contact with the ground. The aircraft received substantial damage and there were no injuries. During continuity check of engine components, both left and right magneto impulse coupling springs were broken in the same location.





FEDERAL AVIATION ADMINISTRATION
Flight Standards District Office
3431 Aviation Road
Suite 120
Lincoln, NE 68524

EXTRA

WE'RE ON THE WEB
[HTTP://WWW.FAA.GOV/FSDO/LINCOLN](http://www.faa.gov/fstdo/lincoln)

Background Information Needed		Elements of Standard WX Briefing	
1. Type of Flight (VFR or IFR)		1. Adverse Conditions	
2. Aircraft Ident or Pilot's Name		2. Synopses	
3. Aircraft Type		3. Current Conditions	
4. Departure Point & Route of Flight		4. En Route Forecast	
5. Destination		5. Destination Forecast	
6. Flight Altitude		6. Winds Aloft	
7. Time of Departure and Time in Route		7. Notices to Airmen (NOTAMs)	

NOTAM INFORMATION

D (Distant) NOTAM - D NOTAMs are available from any Flight Service Station.
L (Local) NOTAM - L NOTAMs are only available from the Flight Service Station that is responsible for that airport.

PDC NOTAM - Are regulatory in nature (i.e. changes to approaches or TFRs).

*Published NOTAM information (AFD, NTAP, etc.) must be requested from the Flight Service Station by the pilot.

National Toll Free Numbers 1-800 WXBRIEF (992-7433)

National Toll Free for Local AFSS

Albuquerque, NM	ABQ	866-449-5390	Jackson, TN	MKL	866-840-1051
Alhambra, PA	AOO	866-708-9987	Jonesboro, AR	JBR	866-520-8890
Anderson, SC	AND	866-225-2172	Juneau, AK	JNU	866-297-2236
Anniston, AL	ANB	866-609-8684	Kankakee, IL	IRK	866-450-6593
Bangor, ME	BGR	866-295-3835	Kenai, AK	ENA	866-864-1737
Boise, ID	BOI	866-258-9068	Lansing, MI	LAN	866-879-4066
Bridgeport, CT	BDR	866-293-5149	Leesburg, VA	DCA	866-225-7410
Buffalo, NY	BUF	866-678-2759	Louisville, KY	LOU	866-412-7968
Burlington, VT	BTV	866-847-1846	Macon, GA	MCN	866-276-0243
Casper, WY	CPR	866-227-7498	McAlester, OK	MLC	866-269-0189
Cedar City, UT	CDC	866-667-3858	McMinnville, OR	MMV	866-833-7631
Cleveland, OH	CLE	866-780-8261	Miami, FL	MIA	866-347-0316
Columbia, MO	COU	866-273-4352	Millville, NJ	MIV	866-225-7920
Columbus, NE	OLU	866-288-3448	Nashville, TN	BNA	866-890-1348
Corroze, TX	CXO	866-889-5992	Oakland, CA	OAK	866-469-7828
Dayton, OH	DAY	866-505-6163	Prescott, AZ	PRC	866-226-3763
Denver, CO	DEN	866-751-7021	Princeton, MN	PMN	866-841-6469
Deridder, LA	DRI	866-401-5659	Raleigh, NC	RDU	866-663-3354
Elkins, WV	EKN	866-656-2661	Rancho Murieta, CA	RNO	866-272-7525
Fairbanks, AK	FAI	866-248-6516	Reno, NV	RNO	866-281-2737
Fort Dodge, IA	FOD	866-300-2858	Riverside, CA	RAL	866-838-2250
Ft. Worth, TX	FTW	866-272-7915	San Angelo, TX	SJT	866-300-3867
Gainesville, FL	GNV	866-523-7229	San Diego, CA	SAN	866-682-2175
Grand Forks, ND	GFK	866-306-6931	San Juan, PR	SJU	866-822-8537
Great Falls, MT	GTF	866-527-7601	Seattle, WA	SEA	866-384-7323
Green Bay, WI	GRB	866-845-4888	St Louis, MO	STL	866-671-6176
Greenwood, MS	GWO	866-245-6109	St Petersburg, FL	PIE	866-295-3983
Hawthorne, CA	HHR	866-879-8252	Terre Haute, IN	HUF	866-224-9906
Honolulu, HI	HNL	866-766-0820	Wichita, KS	ICT	866-672-5145
Huron, SD	HON	866-732-1331	Williamsport, PA	IPT	866-455-6434
Islip, NY	ISP	866-365-5019			